of the mesophytes into forest, grass, and waste societies would serve the authors' purpose fully as well.

It may be too early as yet to predict whether the direction to future work in plant geography will be given by Warming or by Drude; and so whether we shall speak of ecology or phytogeography, of life forms or of vegetation forms, of plant societies or formations, is yet to be decided. Perhaps the solution will be by a division of labor, phytogeography including the larger problems of distribution and dealing with extensive formations, while ecology will have to do more with local and habitat relations, including anatomical as well as field investigation. In any event, the *Phytogeography of Nebraska* will be an indispensable work to all American students along either line. — HENRY C. COWLES.

MINOR NOTICES.

IT IS A PLEASURE to record the publication of an English translation of the admirable *Lehrbuch der Botanik*[5] by Strasburger, Noll, Schenck and Schimper, of the University of Bonn. This translation has been made by Dr. H. C. Porter, of the University of Pennsylvania, from the second German edition, which was noticed in this journal in August 1896. The publication has been long delayed (it was announced for last March), but this delay has doubtless been unavoidable, and it has certainly whetted desire. The translator has succeeded better than was to be expected in preserving the flavor of the original and at the same time putting it into idiomatic English. He has avoided introducing new terms, in rendering technical German ones, by adhering to the usage of previous translators. There may be some question of the wisdom of too slavish conformity, but it is at least an error on the side of safety. We are pleased also to announce that the publishers have decided to issue the book in two parts, the first containing the morphology and physiology, and the second the special morphology of cryptogams and phanerogams. When we add that the manufacture of the book leaves nothing to be desired (the imperfections of the color printing being entirely unimportant, as the figures themselves are) there is nothing more to be said.— C. R. B.

GARDEN-MAKING is attractive to many more people than know how to go at it, and garden-making would be undertaken by many more people if they had a proper mental picture of what a garden should be and knew how to go about realizing it. The last volume of the *Garden-craft series*, by Professor L. H. Bailey,[6] endeavors first to create the proper conception and then show how the picture can be painted in plants and soil.

[5] STRASBURGER, NOLL, SCHENCK and SCHIMPER.— A text-book of botany, translated from the German by H. C. Porter. 8vo. pp, x + 632. *figs. 594.* London & New York: The Macmillan Co. 1898. $4.50. In two volumes, each $2.50.

"This book understands the garden to be that part of the premises which is devoted to ornament, and to the growing of vegetables and fruits either for the home consumption or for market. The garden is, therefore, an ill-defined demesne; but the reader must not make the mistake of defining it by dimensions, for one may have a garden in a flower pot or on a thousand acres. In other words, this book believes that every bit of land which is not used for buildings, walks, drives, and fences, should be planted. What we shall plant — whether sward, lilacs, thistles, cabbages, pears, chrysanthemums, or potatoes — we shall talk about as we proceed."

And talk about it the author does, in the most interesting and attractive style, bringing forth out of the treasures of his experience and observation things new and old. In a hundred pages and more of general advice he tells the things which the novice most needs to know, and, if we mistake not, many things which the professional gardener would be profited by knowing. Then follows a discussion of the principles of landscape art as they apply to planting city yards, suburban grounds or rural estates. A third section is devoted to suggestions in regard to ornamental planting; a fourth to the fruit plantation, and another to the vegetable garden. In fact there is no one who owns the land on which he lives who would not find in this book something of profit and interest.—C. R. B.

THE ANNUAL REPORT of Mr. Fawcett as director of the gardens of Jamaica contains many items of interest in connection with his recent description of gardens in this journal (Nov. 1897). During the year 264,000 plants were distributed from the Hope Gardens to planters and farmers, and to this total is to be added the specimens sent out from the other gardens, which are used as minor distributing centers. Cultural and acclimatization experiments of great value have been carried on, and the economic efficiency of the system of gardens is certainly many times in excess of the actual cost to the island government. Among the points of scientific interest presented in the report, it is noted that Bermuda lilies grown in Jamaica show a rapid multiplication of bulbs, with no resting period of any sort.

Although no systematic survey is in progress, seven new species of phanerogams and forty-four species of mosses were collected during the year by various members of the staff.—D. T. MCDOUGAL.

NOTES FOR STUDENTS.

MESSRS. HITCHCOCK AND CLOTHIER have made a report upon the vegetative propagation of the perennial weeds of Kansas.[7] In it is contained an

[6] BAILEY, L. H.— Garden-making: suggestions for the utilizing of home grounds. Aided by L. R. Taft, F. A. Waugh, and Ernest Walker. 12mo., pp. viii + 417, *figs. 256*. New York: The Macmillan Co., 1898. $1.

[7] Bull. 76, Feb. 1898, Experiment Station of the Kansas State Agricultural College.